

1/12
FIG. 1a

| | |
|--------|---------|
| FIG. 1 | FIG. 1a |
| | FIG. 1b |

Sequence of the PCV Imp1011-48121 isolate (SEQ ID No. 1)

1 AATTCAACCT TAACCTTTCT TATTCTGTAG TATTCAAAGG GCACAGAGCG
51 GGGGTTTGAG CCCCCTCCTG GGGGAAGAAA GTCATTAATA TTGAATCTCA
101 TCATGTCCAC CGCCCAGGAG GCGGTTCTGA CTGTGGTTCG CTTGACAGTA
151 TATCCGAAGG TCGGGGAGAG GCGGGTGTG AAGATGCCAT TTTTCCTTCT
201 CCAGCGGTAA CCGTGGCGGG GGTGGACGAG CCAGGGGCGG CGGCGGAGGA
251 TCTGGCCAAG ATGGCTGCGG GGGCGGTGTC TTCTTCTCCG GTAACGCCTC
301 CTTGGATACG TCATATCTGA AAACGAAAGA AGTGCCTGT AAGTATTACC
351 AGCGCACTTC GGCAGCGGCA GCACCTCGGC AGCACCTCAG CAGCAACATG
401 CCGAGCAAGA AGAATGGAAG AAGCGGACCC CAACCCATA AAAGGTGGGT
451 GTTCACTCTG AATAATCCTT CCGAAGACGA GCGCAAGAAA ATACGGGATC
501 TTCCAATATC CCTATTTGAT TATTTTATTG TTGGCGAGGA GGGTAATGAG
551 GAAGGACGAA CACCTCACCT CCAGGGGTTC GCTAATTTTG TGAAGAAGCA
601 GACTTTTAAT AAAGTGAAGT GGTATTTGGG TGCCCGCTGC CACATCGAGA
651 AAGCGAAAGG AACAGATCAG CAGAATAAAG AATACTGCAG TAAAGAAGGC
701 AACTTACTGA TGGAGTGTGG AGCTCCTAGA TCTCAGGGAC AACGGAGTGA
751 CCTGTCTACT GCTGTGAGTA CTTGTTGGA GAGCGGGAGT CTGGTGACCG
801 TTGCAGAGCA GCACCCTGTA ACGTTTGTCA GAAATTTCCG CGGGCTGGCT
851 GAACTTTTGA AAGTGAGCGG GAAAATGCAG AAGCGTGATT GGAAGACTAA
901 TGTacACGTC ATTGTGGGGC CACCTGGGTG TGGTAAAAGC AAATGGGCTG
951 CTAATTTTGC AGACCCGGAA ACCACATACT GGAAACCACC TAGAAACAAG
1001 TGGTGGGATG GTTACCATGG TGAAGAAGTG GTTGTTATTG ATGACTTTTA
1051 TGGCTGGCTG CCCTGGGATG ATCTACTGAG ACTGTGTGAT CGATATCCAT
1101 TGA CTGATTACCA GCAATCAGAC CCCGTTGGAA TGGTACTCCT CAACTGCTGT
1151 CTGATTACCA GCAATCAGAC CCCGTTGGAA TGGTACTCCT CAACTGCTGT
1201 CCCAGCTGTA GAAGCTCTTT ATCGGAGGAT TACTTCCTTG GTATTTTGGG

FIG. 1a: 2543460

FIG. 1b

| | |
|--------|--------------------|
| FIG. 1 | FIG. 1a FIG. 1b |
|--------|--------------------|

1251 AGAATGCTAC AGAACAATCC ACGGAGGAAG GGGGCCAGTT CGTCACCCCTT
1301 TCCCCCCGAT GCCCTGAATT TCCATATGAA ATAAATTACT GAGTCTTTTTT
1351 TATCACTTCG TAATGGTTTT TATTATTCAT TAAGGGTTAA GTGGGGGGTC
1401 TTTAAGATTA AATTCTCTGA ATTGTACATA CATGGTTACA CGGATATTGT
1451 ATTCCTGGTC GTATATACTG TTTTCGAACG CAGTGCCGAG GCCTACGTGG
1501 TCTACATTTT CAGCAGTTTG TAGTCTCAGC CACAGCTGGT TTCTTTTGTT
1551 GTTTGGTTGG AAGTAATCAA TAGTGGAATC TAGGACAGGT TTGGGGGTAA
1601 AGTAGCGGGA GTGGTAGGAG AAGGGCTGGG TTATGGTATG GCGGGAGGAG
1651 TAGTTTACAT AGGGGTCATA GGTGAGGGCT GTGGCCTTTG TTACAAAGTT
1701 ATCATCTAGA ATAACAGCAC TGGAGCCCAC TCCCCTGTCA CCCTGGGTGA
1751 TCGGGGAGCA GGGCCAG

3/12

FIG. 2a

| | |
|--------|---------|
| FIG. 2 | FIG. 2a |
| | FIG. 2b |

Sequence of the PCV Imp1011-48285 isolate (SEQ ID No. 2)

1 AATTCAACCT TAACCTTTCT TATTCTGTAG TATTCAAAGG GCACAGAGCG
51 GGGGTTTGAG CCCCTCCTG GGGGAAGAAA GTCATTAATA TTGAATCTCA
101 TCATGTCCAC CGCCCAGGAG GCGGTTTGA CTGTGGTTCG CTTGACAGTA
151 TATCCGAAGG TGCGGGAGAG GCGGGTGTG AAGATGCCAT TTTTCCTTCT
201 CCAGCGGTAA CGGTGGCGGG GGTGGACGAG CCAGGGGCGG CGGCGGAGGA
251 TCTGGCCAAG ATGGCTGCGG GGGCGGTGTC TTCTTCTCCG GTAACGCCTC
301 CTTGGATACG TCATATCTGA AAACGAAAGA AGTGCCTGT AAGTATTACC
351 AGCGCACTTC GGCAGCGGCA GCACCTCGGC AGCACCTCAG CAGCAACATG
401 CCCAGCAAGA AGAATGGAAG AAGCGGACCC CAACCCATA AAAGGTGGGT
451 GTTCACTCTG AATAATCCTT CCGAAGACGA GCGCAAGAAA ATACGGGATC
501 TTCCAATATC CCTATTTGAT TATTTTATTG TTGGCGAGGA GGGTAATGAG
551 GAAGGACGAA CACCTCACCT CCAGGGGTC GCTAATTTTG TGAAGAAGCA
601 GACTTTTAAT AAAGTGAAGT GGTATTTGGG TGCCCGCTGC CACATCGAGA
651 AAGCGAAAGG AACAGATCAG CAGAATAAAG AATACTGCAG TAAAGAAGGC
701 AACTTACTGA TGGAGTGTGG AGCTCCTAgA TCTCagGGAC AACGGAGTGA
751 CCTGTCTACT GCTGTGAGTA CTTGTTGGA GAGCGGGAGT CTGGTGACCG
801 TTGCAGAGCA GCACCCTGTA ACGTTTGTCA GAAATTTCCG CGGGCTGGCT
851 GAACTTTTGA AAGTGAGCGG GAAAATGCAG AAGCGTGATT GGAAGACTAA
901 TGTACACGTC ATTGTGGGGC CACCTGGGTG TGGTAAAAGC AAATGGGCTG
951 CTAATTTTGC AGACCCGGAA ACCACATACT GGAAACCACC TAGAAACAAG
1001 TGGTGGGATG GTTACCATGG TGAAGAAGTG GTTGTTATTG ATGACTTTTA
1051 TGGCTGGCTG CCCTGGGATG ATCTACTGAG ACTGTGTGAT CGATATCCAT
1101 TGACTGTAGA GACTAAAGGT GGAAGTGTAC CTTTTTTGGC CCGCAGTATT
1151 CTGATTACCA GCAATCAGAC CCCGTTGGAA TGGTACTCCT CAACTGCTGT
1201 CCCAGCTGTA GAAGCTCTTT ATCGGAGGAT TACTTCCTTG GTATTTTGA

02999:0301

4/12

FIG. 2b

| | |
|--------|---------|
| FIG. 2 | FIG. 2a |
| | FIG. 2b |

1251 AGAATGCTAC AGAACAATCC ACGGAGGAAG GGGGCCAGTT CGTCACCCTT
1301 TCCCCCCCAT GCCCTGAATT TCCATATGAA ATAAATTACT GAGTCTTTTT
1351 TATCACTTCG TAATGGTTTT TATTATTCAT TAAGGGTTAA GTGGGGGGTC
1401 TTTAAGATT AATTCTCTGA ATTGTACATA CATGGTTACA CGGATATTGT
1451 ATTCTTGGTC GTATATACTG TTTTCGAACG CAGTGCCGAG GCCTACGTGG
1501 TCTACATTTT CAGTAGTTTG TAGTCTCAGC CACAGCTGAT TTCTTTTGTT
1551 GTTTGGTTGG AAGTAATCAA TAGTGGAATC TAGGACAGGT TTGGGGGTAA
1601 AGTAGCGGGA GTGGTAGGAG AAGGGCTGGG TTATGGTATG GCGGGAgGAG
1651 TAGTTTACAT AGGGGTCATA GGTGAgGGCT GTGGCCTTTG TTACAAAGTT
1701 ATCATCTAGA ATAACAGCAC TGGAGCCCAC TCCCCTGTCA CCCTGGGTGA
1751 TCGGGGAGCA GGGCCAG

FIG. 2a

5/12

FIG. 3a

| | |
|--------|---------|
| FIG. 3 | FIG. 3a |
| | FIG. 3b |

Sequence of the PCV Imp999 isolate (SEQ ID No. 3)

1 AATTCAACCT TAACCTTTTT TATTCTGTAG TATTCAAAGG GTATAGAGAT
51 TTTGTTGGTC CCCCTCCCCG GGGGAACAAA GTCGTCAATA TTAAATCTCA
101 TCATGTCCAC CGCCCAGGAG GCGGTTCTGA CTGTGGTAGC CTTGACAGTA
151 TATCCGAAGG TGCGGGAGAG GCGGGTGTG AAGATGCCAT TTTTCCTTCT
201 CCAACGGTAG CGGTGGCGGG GGTGGACGAG CCAGGGGCGG CGGCGGAGGA
251 TCTGGCCAAG ATGGCTGCGG GGGCGGTGTC TTCTTCTGCG GTAACGCCCTC
301 CTTGGATACG TCATAGCTGA AAACGAAAGA AGTGCCTGT AAGTATTACC
351 AGCGCACTTC GGCAGCGGCA GCACCTCGGC AGCACCTCAG CAGCAACATG
401 CCCAGCAAGA AGAATGGAAG AAGCGGACCC CAACCACATA AAAGGTGGGT
451 GTTACGCTG AATAATCCTT CCGAAGACGA GCGCAAGAAA ATACGGGAGC
501 TCCCAATCTC CCTATTTGAT TATTTTATTG TTGGCGAGGA GGGTAATGAG
551 GAAGGACGAA CACCTCACCT CCAGGGGTTC GCTAATTTTG TGAAGAAGCA
601 AACTTTTAAT AAAGTGAAGT GGTATTTGGG TGCCCGCTGC CACATCGAGA
651 AAGCCAAAGG AACTGATCAG CAGAATAAAG AATATTGCAG TAAAGAAGGC
701 AACTTACTTA TTGAATGTGG AGCTCCTCGA TCTCAAGGAC AACGGAGTGA
751 CCTGTCTACT GCTGTGAGTA CTTGTTGGA GAGCGGGAGT CTGGTGACCG
801 TTGCAGAGCA GCACCCTGTA ACGTTTGTCA GAAATTTCCG CGGGCTGGCT
851 GAACTTTTGA AAGTGAGCGG GAAAATGCAG AAGCGTGATT GGAAGACCAA
901 TGTACACGTC ATTGTGGGGC CACCTGGGTG TGGTAAAAGC AAATGGGCTG
951 CTAATTTTGC AGACCCGGAA ACCACATACT GGAAACCACC TAGAAACAAG
1001 TGGTGGGATG GTTACCATGG TGAAGaAGTG GTTGTATTG ATGACTTTTA
1051 TGGCTGGCTG CCGTGGGATG ATCTACTGAG ACTGTGTGAT CGATATCCAT
1101 TGA CTGTAGTA GACTAAAGGT GGAAGTGTAC CTTTTTTGGC CCGCAGTATT
1151 CTGATTACCA GCAATCAGAC CCCGTTGGAA TGGTACTCCT CAACTGCTGT
1201 CCCAGCTGTA GAAGCTCTCT ATCGGAGGAT TACTTCCTTG GTATTTTGGa

FIG. 3a

6/12

FIG. 3b

| | |
|--------|---------|
| FIG. 3 | FIG. 3a |
| | FIG. 3b |

1251 AGAATGCTAC AGAACAATCC ACGGAGGAAG GGGGCCAGTT CGTCACCCTT
1301 TCCCCCCCAT GCCCTGAATT TCCATATGAA ATAAATTACT GAGTCTTTTT
1351 TATCACTTCG TAATGGTTTT TATTATTCAT TTAGGGTTTA AGTGGGGGGT
1401 CTTTAAGATT AAATTCTCTG AATTGTACAT ACATGGTTAC ACGGATATTG
1451 TAGTCCTGGT CGTATATACT GTTTTCGAAC GCAGTGCCGA GGCCTACGTG
1501 GTCCACATTT CTAGAGGTTT GTAGCCTCAG CCAAAGCTGA TTCCTTTTGT
1551 TATTTGGTTG GAAGTAATCA ATAGTGGAGT CAAGAACAGG TTTGGGTGTG
1601 AAGTAACGGG AGTGGTAGGA GAAGGGTTGG GGGATTGTAT GGCGGGAGGA
1651 GTAGTTTACA TATGGGTCAT AGGTTAGGGC TGTGGCCTTT GTTACAAAGT
1701 TATCATCTAG AATAACAGCA GTGGAGCCCA CTCCCCTATC ACCCTGGGTG
1751 ATGGGGGAGC AGGGCCAG

FIG. 3a-3b

| | |
|--------|--------------------|
| FIG. 4 | FIG. 4a FIG. 4b |
|--------|--------------------|

| | | | | | |
|------|------------|------------|------------|------------|------------|
| 1 | AATTCAACCT | TAACCTTTCT | TATTCTGTAG | TATTCAAAGG | GTATAGAGAT |
| 51 | TTTGTGGTGC | CCCCCTCCCG | GGGGAACAAA | GTCGTCAATT | TTAAATCTCA |
| 101 | TCATGTCCAC | CGCCCAGGAG | GGCGTTGTGA | CTGTGGTACG | CTTGACAGTA |
| 151 | TATCCGAAGG | TGCGGGAGAG | GCGGGTGTG | AAGATGCCAT | TTTTCTTCT |
| 201 | CCAACGGTAG | CGGTGGCGGG | GGTGGACGAG | CCAGGGGCGG | CGGCGGAGGA |
| 251 | TCTGGCCAAG | ATGGCTGCGG | GGGCGGTGTC | TTCTTCTGCG | GTAACGCCTC |
| 301 | CTTGGATACG | TCATAGCTGA | AAACGAAAGA | AGTGCCTGT | AAGTATTACC |
| 351 | AGCGCACTTC | GGCAGCGGCA | GCACCTCGGC | AGCACCTCAG | CAGCAACATG |
| 401 | CCCAGCAAGA | AGAATGGAAG | AAGCGGACCC | CAACCACATA | AAAGTGGGT |
| 451 | GTTACGCTG | AATAATCCTT | CCGAAGACGA | GCGCAAGAAA | ATACGGGAGC |
| 501 | TCCCAATCTC | CCTATTTGAT | TATTTTATTG | TTGGCGAGGA | GGGTAATGAG |
| 551 | GAAGGACGAA | CACCTCACCT | CCAGGGGTTC | GCTAATTTTG | TGAAGAAGCA |
| 601 | AACTTTTAAT | AAAGTGAAGT | GGTATTTGGG | TGCCCCTGTC | CACATCGAGA |
| 651 | AAGCCAAAGG | AACTGATCAG | CAGAATAAAG | AATATTGCAG | TAAAGAAGGC |
| 701 | AACTTACTTA | TTGAATGTGG | AGCTCCTCGA | TCTCAAGGAC | AACGGAGTGA |
| 751 | CCTGTCTACT | GCTGTGAGTA | CCTTGTTGGA | GAGCGGGAGT | CTGGTGACCG |
| 801 | TTGCAGAGCA | GCACCCTGTA | ACGTTTGTCA | GAAATTTCCG | CGGGCTGGCT |
| 851 | GAACTTTTGA | AAGTGAGCGG | GAAAATGCAG | AAGCGTGATT | GGAAGACCAA |
| 901 | TGTACACGTC | ATTGTGGGGC | CACCTGGGTG | TGGTAAAAGC | AAATGGGCTG |
| 951 | CTAATTTTGC | AGACCCGGAA | ACCACATACT | GGAAACCACC | TAGAAACAAG |
| 1001 | TGGTGGGATG | GTTACCATGG | TGAAGAAGTG | GTTGTTATTG | ATGACTTTTA |
| 1051 | TGGCTGGCTG | CCGTGGGATG | ATCTACTGAG | ACTGTGTGAT | CGATATCCAT |
| 1101 | TGACTGTAGA | GAATAAAGGT | GGAAGTGTAC | CTTTTTTGGC | CCGCAGTATT |
| 1151 | CTGATTACCA | GCAATCAGAC | CCCGTTGGAA | TGGTACTCCT | CAACTGCTGT |
| 1201 | CCCAGCTGTA | GAAGCTCTCT | ATCGGAGGAT | TACTTCCTTG | GTATTTTGGG |

8/12

FIG. 4b

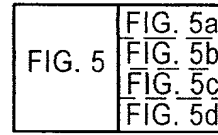
| | |
|--------|---------|
| FIG. 4 | FIG. 4a |
| | FIG. 4b |

1251 AGAATGCTAC AGAACAATCC ACGGAGGAAG GGGGCCAGTT CGTCACCCTT
1301 TCCCCCCCAT GCCCTGAATT TCCATATGAA ATAAATTACT GAGTCTTTTT
1351 TATCACTTCG TAATGGTTTT TATTATTCAT TTAGGGTTTA AGTGGGGGGT
1401 CTTTAAGATT AAATTCTCTG AATTGTACAT ACATGGTTAC ACGGATATTG
1451 TAGTCCTGGT CGTATTTACT GTTTTCGAAC GCAGCGCCGA GGCCTACGTG
1501 GTCCACATTT CCAGAGGTTT GTAGTCTCAG CCAAAGCTGA TTCCTTTTGT
1551 TATTTGGTTG GAAGTAATCA ATAGTGGAGT CAAGAACAGG TTTGGGTGTG
1601 AAGTAACGGG AGTGGTAGGA GAAGGGTTGG GGGATTGTAT GGCGGGAGGA
1651 GTAGTTTACA TATGGGTCAT AGGTTAGGGC TGTGGCCTTT GTTACAAAGT
1701 TATCATCTAG AATAACAGCA GTGGAGCCCA CTCCCCTATC ACCCTGGGTG
1751 ATGGGGGAGC AGGGCCAG

09495-0004

9/12

FIG. 5a



CLUSTAL W multiple sequence alignment

```

PCVPK-15      AATTCATATTTAGCCTTTCTAATACGGTAGTATTGGAAAGGTAGGGGTAGGGGGTTGGTG
IMP999-ECO    AATTCAACCTTAACCTTTTTTATTCTGTAGTATTCAAAGGGTATAGAGATTTTGTGGTC
IMP1010-ST    AATTCAACCTTAACCTTTCTTATTCTGTAGTATTCAAAGGGTATAGAGATTTTGTGGTC
IMP1011-48    AATTCAACCTTAACCTTTCTTATTCTGTAGTATTCAAAGGGCACAGAGCGGGGGTTTGAG
IMP1011-48    AATTCAACCTTAACCTTTCTTATTCTGTAGTATTCAAAGGGCACAGAGCGGGGGTTTGAG
*****      *** ***** * * * * *****      * * * * *      * * * *

PCVPK-15      CCGCCTGAGGGGGGGAGGAACTGGCCGATGTTGAATTTGAGGTAGTTAACATTCCAAGAT
IMP999-ECO    CCCCCCTCCCGGGGGAACAAAGTCGTCAATATTAAATCTCATCATGTCCACCGCCCAGGAG
IMP1010-ST    CCCCCCTCCCGGGGGAACAAAGTCGTCAATTTTAAATCTCATCATGTCCACCGCCCAGGAG
IMP1011-48    CCCCCCTCCTGGGGGAAGAAAGTCATTAATATTGAATCTCATCATGTCCACCGCCCAGGAG
IMP1011-48    CCCCCCTCCTGGGGGAAGAAAGTCATTAATATTGAATCTCATCATGTCCACCGCCCAGGAG
** * * *      * * * * *      * * * *      * * * * *      * * * *

PCVPK-15      GGC--TGCGAGTATCCTCCTTTT-ATGGTGAGTACAAATTCTGTAGAAAGGCGGGAATTG
IMP999-ECO    GGC GTTCTGACTGTGGTAGCCTTGACAGTATATCCGAAGGTGCGGGAGAGGCGGGTGTTG
IMP1010-ST    GGC GTTGTGACTGTGGTACGCTTGACAGTATATCCGAAGGTGCGGGAGAGGCGGGTGTTG
IMP1011-48    GGC GTTCTGACTGTGGTTCGCTTGACAGTATATCCGAAGGTGCGGGAGAGGCGGGTGTTG
IMP1011-48    GGC GTTTTGACTGTGGTTCGCTTGACAGTATATCCGAAGGTGCGGGAGAGGCGGGTGTTG
*** * * * *      * * * * *      * * * * *      * * * * *      * * * *

PCVPK-15      AAGATACCCGCTCTTTTCGGCGCCATCTGTAACGGTTTCTGAAGGCGGGGTGTGCCAAATAT
IMP999-ECO    AAGATGCCATTTTTCCTTCTCCAACGGTAGCGGTGGC-GGGGGTGGA-CGAGCCAGGGGC
IMP1010-ST    AAGATGCCATTTTTCCTTCTCCAACGGTAGCGGTGGC-GGGGGTGGA-CGAGCCAGGGGC
IMP1011-48    AAGATGCCATTTTTCCTTCTCCAACGGTAGCGGTGGC-GGGGGTGGA-CGAGCCAGGGGC
IMP1011-48    AAGATGCCATTTTTCCTTCTCCAACGGTAGCGGTGGC-GGGGGTGGA-CGAGCCAGGGGC
***** * * * *      * * * * *      * * * * *      * * * * *      * * * *

PCVPK-15      GGTCTTCTCCGGAGGATGTTTCCAAGATGGCTGCGGGGGCGGGTCCTTCTTCTGCGGTAA
IMP999-ECO    GG----CGGCGGAGGATCTGGCCAAGATGGCTGCGGGGGCGGTGTCTTCTTCTGCGGTAA
IMP1010-ST    GG----CGGCGGAGGATCTGGCCAAGATGGCTGCGGGGGCGGTGTCTTCTTCTGCGGTAA
IMP1011-48    GG----CGGCGGAGGATCTGGCCAAGATGGCTGCGGGGGCGGTGTCTTCTTCTCCGGTAA
IMP1011-48    GG----CGGCGGAGGATCTGGCCAAGATGGCTGCGGGGGCGGTGTCTTCTTCTCCGGTAA
* * *      * * * * *      * * * * *      * * * * *      * * * *

PCVPK-15      CGCCTCCTTGGCCACGTCATCCTATAAAAGTGAAAGAAGTGCGCTGCTGTAGTATTACCA
IMP999-ECO    CGCCTCCTTGGATACGTCATAGC-TGAAAACGAAAGAAGTGCGCTGTA--AGTATTACCA
IMP1010-ST    CGCCTCCTTGGATACGTCATAGC-TGAAAACGAAAGAAGTGCGCTGTA--AGTATTACCA
IMP1011-48    CGCCTCCTTGGATACGTCATATC-TGAAAACGAAAGAAGTGCGCTGTA--AGTATTACCA
IMP1011-48    CGCCTCCTTGGATACGTCATATC-TGAAAACGAAAGAAGTGCGCTGTA--AGTATTACCA
***** * * * *      * * * * *      * * * * *      * * * * *

PCVPK-15      GCGCACTTCGGCAGCGGCAGCACCTCGGCAGCAG--TCAGTG--AAAATGCCAAGCAAGAA
IMP999-ECO    GCGCACTTCGGCAGCGGCAGCACCTCGGCAGCAGCCTCAGCAGCAACATGCCAGCAAGAA
IMP1010-ST    GCGCACTTCGGCAGCGGCAGCACCTCGGCAGCAGCCTCAGCAGCAACATGCCAGCAAGAA
IMP1011-48    GCGCACTTCGGCAGCGGCAGCACCTCGGCAGCAGCCTCAGCAGCAACATGCCAGCAAGAA
IMP1011-48    GCGCACTTCGGCAGCGGCAGCACCTCGGCAGCAGCCTCAGCAGCAACATGCCAGCAAGAA
***** * * * *      * * * * *      * * * * *      * * * * *

```

FIG. 5a: 224826

10/12

FIG. 5b

| | |
|--------|---------|
| FIG. 5 | FIG. 5a |
| | FIG. 5b |
| | FIG. 5c |
| | FIG. 5d |

PCVPK-15 -----AAGCGGCCCGCAACCCCATAAAGAGGTGGGTGTTACCCCTTAATAATCCTTC
IMP999-ECO GAATGGAAGAAGCGGACCCCAACCCATATAAGGTGGGTGTTACGCTGAATAATCCTTC
IMP1010-ST GAATGGAAGAAGCGGACCCCAACCCATATAAGGTGGGTGTTACGCTGAATAATCCTTC
IMP1011-48 GAATGGAAGAAGCGGACCCCAACCCCATATAAGGTGGGTGTTCACTCTGAATAATCCTTC
IMP1011-48 GAATGGAAGAAGCGGACCCCAACCCCATATAAGGTGGGTGTTCACTCTGAATAATCCTTC

PCVPK-15 CGAGGAGGAGAAAAACAAAATACGGGAGCTTCCAATCTCCCTTTTGGATTATTTTGGTTG
IMP999-ECO CGAAGACGAGCGCAAGAAAATACGGGAGCTCCAATCTCCCTATTTGATTATTTTATTGT
IMP1010-ST CGAAGACGAGCGCAAGAAAATACGGGAGCTCCAATCTCCCTATTTGATTATTTTATTGT
IMP1011-48 CGAAGACGAGCGCAAGAAAATACGGGATCTTCCAATATCCCTATTTGATTATTTTATTGT
IMP1011-48 CGAAGACGAGCGCAAGAAAATACGGGATCTTCCAATATCCCTATTTGATTATTTTATTGT

PCVPK-15 CGGAGAGGAAGGTTTGGAAAGAGGGTAGAACTCCTCACCTCCAGGGGTTTGCGAATTTTGC
IMP999-ECO TGGCGAGGAGGGTAATGAGGAAGGACGAACACCTCACCTCCAGGGGTTTCGCTAATTTTGT
IMP1010-ST TGGCGAGGAGGGTAATGAGGAAGGACGAACACCTCACCTCCAGGGGTTTCGCTAATTTTGT
IMP1011-48 TGGCGAGGAGGGTAATGAGGAAGGACGAACACCTCACCTCCAGGGGTTTCGCTAATTTTGT
IMP1011-48 TGGCGAGGAGGGTAATGAGGAAGGACGAACACCTCACCTCCAGGGGTTTCGCTAATTTTGT
* * * * *

PCVPK-15 TAAGAAGCAGACTTTTAACAAGGTGAAGTGGTATTTTGGTGCCCGCTGCCACATCGAGAA
IMP999-ECO GAAGAAGCAAACCTTTTAATAAAGTGAAGTGGTATTTGGGTGCCCGCTGCCACATCGAGAA
IMP1010-ST GAAGAAGCAAACCTTTTAATAAAGTGAAGTGGTATTTGGGTGCCCGCTGCCACATCGAGAA
IMP1011-48 GAAGAAGCAGACTTTTAATAAAGTGAAGTGGTATTTGGGTGCCCGCTGCCACATCGAGAA
IMP1011-48 GAAGAAGCAGACTTTTAATAAAGTGAAGTGGTATTTGGGTGCCCGCTGCCACATCGAGAA

PCVPK-15 AGCGAAAGGAACCGACCAGCAGAATAAAGAATACTGCAGTAAAGAAGGCCACATACTTAT
IMP999-ECO AGCCAAAGGAACCTGATCAGCAGAATAAAGAATATTGCAGTAAAGAAGGCCAACTTACTTAT
IMP1010-ST AGCCAAAGGAACCTGATCAGCAGAATAAAGAATATTGCAGTAAAGAAGGCCAACTTACTTAT
IMP1011-48 AGCGAAAGGAACAGATCAGCAGAATAAAGAATACTGCAGTAAAGAAGGCCAACTTACTGAT
IMP1011-48 AGCGAAAGGAACAGATCAGCAGAATAAAGAATACTGCAGTAAAGAAGGCCAACTTACTGAT

PCVPK-15 CGAGTGTGGAGCTCCGCGGAACCGGGGAAGCGCAGCGACCTGTCTACTGCTGTGAGTAC
IMP999-ECO TGAATGTGGAGCTCCTCGATCTCAAGGACAACGGAGTGACCTGTCTACTGCTGTGAGTAC
IMP1010-ST TGAATGTGGAGCTCCTCGATCTCAAGGACAACGGAGTGACCTGTCTACTGCTGTGAGTAC
IMP1011-48 GGAGTGTGGAGCTCCTAGATCTCAGGGACAACGGAGTGACCTGTCTACTGCTGTGAGTAC
IMP1011-48 GGAGTGTGGAGCTCCTAGATCTCAGGGACAACGGAGTGACCTGTCTACTGCTGTGAGTAC
* * * * *

PCVPK-15 CCTTTTGGAGACGGGGTCTTTGGTGACTGTAGCCGAGCAGTTCCCTGTAACGTATGTGAG
IMP999-ECO CTTGTTGGAGAGCGGGAGTCTGGTGACCGTTGCAGAGCAGCACCCCTGTAACGTTTGTGAG
IMP1010-ST CTTGTTGGAGAGCGGGAGTCTGGTGACCGTTGCAGAGCAGCACCCCTGTAACGTTTGTGAG
IMP1011-48 CTTGTTGGAGAGCGGGAGTCTGGTGACCGTTGCAGAGCAGCACCCCTGTAACGTTTGTGAG
IMP1011-48 CTTGTTGGAGAGCGGGAGTCTGGTGACCGTTGCAGAGCAGCACCCCTGTAACGTTTGTGAG
* * * * *

PCVPK-15 AAATTTCCGCGGGCTGGCTGAACCTTTTGAAAGTGAGCGGGAAGATGCAGCAGCGTGATTG
IMP999-ECO AAATTTCCGCGGGCTGGCTGAACCTTTTGAAAGTGAGCGGGAAGATGCAGCAGCGTGATTG
IMP1010-ST AAATTTCCGCGGGCTGGCTGAACCTTTTGAAAGTGAGCGGGAAGATGCAGCAGCGTGATTG
IMP1011-48 AAATTTCCGCGGGCTGGCTGAACCTTTTGAAAGTGAGCGGGAAGATGCAGCAGCGTGATTG
IMP1011-48 AAATTTCCGCGGGCTGGCTGAACCTTTTGAAAGTGAGCGGGAAGATGCAGCAGCGTGATTG

09486201

11/12

FIG. 5c

| | |
|--------|---------|
| FIG. 5 | FIG. 5a |
| | FIG. 5b |
| | FIG. 5c |
| | FIG. 5d |

PCVPK-15 GAAGACAGCTGTACACGTCATAGTGGGCCCCGCGGTTGTGGGAAGAGCCAGTGGGCCCC
IMP999-ECO GAAGACCAATGTACACGTCATTGTGGGGCCACCTGGGTGTGGTAAAAGCAAATGGGCTGC
IMP1010-ST GAAGACCAATGTACACGTCATTGTGGGGCCACCTGGGTGTGGTAAAAGCAAATGGGCTGC
IMP1011-48 GAAGACTAATGTACACGTCATTGTGGGGCCACCTGGGTGTGGTAAAAGCAAATGGGCTGC
IMP1011-48 GAAGACTAATGTACACGTCATTGTGGGGCCACCTGGGTGTGGTAAAAGCAAATGGGCTGC

PCVPK-15 TAATTTTGCTGAGCCTAGGGACACCTACTGGAAGCCTAGTAGAAATAAGTGGTGGGATGG
IMP999-ECO TAATTTTGCGAGACCCGGAACCACATACTGGAAACCACCTAGAAACAAGTGGTGGGATGG
IMP1010-ST TAATTTTGCGAGACCCGGAACCACATACTGGAAACCACCTAGAAACAAGTGGTGGGATGG
IMP1011-48 TAATTTTGCGAGACCCGGAACCACATACTGGAAACCACCTAGAAACAAGTGGTGGGATGG
IMP1011-48 TAATTTTGCGAGACCCGGAACCACATACTGGAAACCACCTAGAAACAAGTGGTGGGATGG

PCVPK-15 ATATCATGGAGAAGAAGTTGTTGTTTGGATGATTTTATGGCTGGTTACCTTGGGATGA
IMP999-ECO TTACCATGGTGAAGAAGTGGTTGTTATTGATGACTTTTATGGCTGGCTGCCGTGGGATGA
IMP1010-ST TTACCATGGTGAAGAAGTGGTTGTTATTGATGACTTTTATGGCTGGCTGCCGTGGGATGA
IMP1011-48 TTACCATGGTGAAGAAGTGGTTGTTATTGATGACTTTTATGGCTGGCTGCCCTGGGATGA
IMP1011-48 TTACCATGGTGAAGAAGTGGTTGTTATTGATGACTTTTATGGCTGGCTGCCCTGGGATGA

PCVPK-15 TCTACTGAGACTGTGTGACCGGTATCCATTGACTGTAGAGACTAAAGGGGGTACTGTTCC
IMP999-ECO TCTACTGAGACTGTGTGATCGATATCCATTGACTGTAGAGACTAAAGGTGGAACGTACTC
IMP1010-ST TCTACTGAGACTGTGTGATCGATATCCATTGACTGTAGAGACTAAAGGTGGAACGTACTC
IMP1011-48 TCTACTGAGACTGTGTGATCGATATCCATTGACTGTAGAGACTAAAGGTGGAACGTACTC
IMP1011-48 TCTACTGAGACTGTGTGATCGATATCCATTGACTGTAGAGACTAAAGGTGGAACGTACTC

PCVPK-15 TTTTGTGGCCCGCAGTATTTTGATTACCAGCAATCAGGCCCCCAGGAATGGTACTCCTC
IMP999-ECO TTTTGTGGCCCGCAGTATTTCTGATTACCAGCAATCAGACCCCGTTGGAATGGTACTCCTC
IMP1010-ST TTTTGTGGCCCGCAGTATTTCTGATTACCAGCAATCAGACCCCGTTGGAATGGTACTCCTC
IMP1011-48 TTTTGTGGCCCGCAGTATTTCTGATTACCAGCAATCAGACCCCGTTGGAATGGTACTCCTC
IMP1011-48 TTTTGTGGCCCGCAGTATTTCTGATTACCAGCAATCAGACCCCGTTGGAATGGTACTCCTC

PCVPK-15 AACTGCTGTCCCAGCTGTAGAAGCTCTCTATCGGAGGATTACTACTTTTGCAATTTTGGA
IMP999-ECO AACTGCTGTCCCAGCTGTAGAAGCTCTCTATCGGAGGATTACTTCCTTGGTATTTTGGA
IMP1010-ST AACTGCTGTCCCAGCTGTAGAAGCTCTCTATCGGAGGATTACTTCCTTGGTATTTTGGA
IMP1011-48 AACTGCTGTCCCAGCTGTAGAAGCTCTTTATCGGAGGATTACTTCCTTGGTATTTTGGA
IMP1011-48 AACTGCTGTCCCAGCTGTAGAAGCTCTTTATCGGAGGATTACTTCCTTGGTATTTTGGA

PCVPK-15 GACTGCTGGAGAACAATCCACGGAGGTACCCGAAGGCCGATTTGAAGCAGTGGACCCACC
IMP999-ECO GAATGCTACAGAACAATCCACGGAGGAA--GGGGGCCAGTTCGTCACCCTTTCCCCCCC
IMP1010-ST GAATGCTACAGAACAATCCACGGAGGAA--GGGGGCCAGTTCGTCACCCTTTCCCCCCC
IMP1011-48 GAATGCTACAGAACAATCCACGGAGGAA--GGGGGCCAGTTCGTCACCCTTTCCCCCCC
IMP1011-48 GAATGCTACAGAACAATCCACGGAGGAA--GGGGGCCAGTTCGTCACCCTTTCCCCCCC

PCVPK-15 CTGTGCCCTTTTCCCATATAAAATAAATACTGAGTCTTTTTTGTATCACATCGTAATG
IMP999-ECO ATGCCCTGAATTTCCCATATGAAATAAATACTGAGTCTTTTT--TATCACTTCGTAATG
IMP1010-ST ATGCCCTGAATTTCCCATATGAAATAAATACTGAGTCTTTTT--TATCACTTCGTAATG
IMP1011-48 ATGCCCTGAATTTCCCATATGAAATAAATACTGAGTCTTTTT--TATCACTTCGTAATG
IMP1011-48 ATGCCCTGAATTTCCCATATGAAATAAATACTGAGTCTTTTT--TATCACTTCGTAATG

00794963-024604

12/12

FIG. 5d

| | |
|--------|---------|
| FIG. 5 | FIG. 5a |
| | FIG. 5b |
| | FIG. 5c |
| | FIG. 5d |

PCVPK-15 GTTTTTATT-TTTATTTA---TTTA---GAGGGTCTTTTAGGATAAAATCTCTGAATTG
IMP999-ECO GTTTTTATTATTCATTTAGGGTTTAAGTGGGGGGTCTTTAAGATTAAATCTCTGAATTG
IMP1010-ST GTTTTTATTATTCATTTAGGGTTTAAGTGGGGGGTCTTTAAGATTAAATCTCTGAATTG
IMP1011-48 GTTTTTATTATTCATTAAGGGTT-AAGTGGGGGGTCTTTAAGATTAAATCTCTGAATTG
IMP1011-48 GTTTTTATTATTCATTAAGGGTT-AAGTGGGGGGTCTTTAAGATTAAATCTCTGAATTG
***** ** *** * ** * * ***** ** *****

PCVPK-15 TACATAAATAGTCAGCCTTACCACATAATTTTGGGCTGTGGCTGC-ATTTTGGAGCGCAT
IMP999-ECO TACATACATGGTTACACGGATATTGTAGTCCTGG-TCGTATATACTGTTTTCGAACGCAG
IMP1010-ST TACATACATGGTTACACGGATATTGTAGTCCTGG-TCGTATTTACTGTTTTCGAACGCAG
IMP1011-48 TACATACATGGTTACACGGATATTGTATTCTGG-TCGTATATACTGTTTTCGAACGCAG
IMP1011-48 TACATACATGGTTACACGGATATTGTATTCTGG-TCGTATATACTGTTTTCGAACGCAG
***** ** *** * * * ** * *** ** * * ***** ** *****

PCVPK-15 AGCCGAGGCCTGTGTGCTCGACATTGGTGTGGGTATTTAAATGGAGCCACAGCTGGTTTC
IMP999-ECO TGCCGAGGCCTACGTGGTCCACATTTCTAGAGGTTTGTAGCCTCAGCCAAAGCTGATTCC
IMP1010-ST CGCCGAGGCCTACGTGGTCCACATTTCCAGAGGTTTGTAGTCTCAGCCAAAGCTGATTCC
IMP1011-48 TGCCGAGGCCTACGTGGTCTACATTTCCAGCAGTTTGTAGTCTCAGCCACAGCTGGTTTC
IMP1011-48 TGCCGAGGCCTACGTGGTCTACATTTCCAGTAGTTTGTAGTCTCAGCCACAGCTGATTTC
***** ** *** ** ***** ** * ** ***** ***** ** *

PCVPK-15 TTTTATTATTTGGGTGGAACCAATCAATTGTTTGGTCCAGCTCAGGTTTGGGGGTGAAGT
IMP999-ECO TTTTGTATTATTGGTTGGAAGTAATCAATAGTGGAGTCAAGAACAGGTTTGGGTGTGAAGT
IMP1010-ST TTTTGTATTATTGGTTGGAAGTAATCAATAGTGGAGTCAAGAACAGGTTTGGGTGTGAAGT
IMP1011-48 TTTTGTGTTTGGTTGGAAGTAATCAATAGTGGAACTAGGACAGGTTTGGGGGTAAAGT
IMP1011-48 TTTTGTGTTTGGTTGGAAGTAATCAATAGTGGAACTAGGACAGGTTTGGGGGTAAAGT
**** * * ***** ***** ***** ** ** ***** ***** ** *****

PCVPK-15 ACCTGGAGTGGTAGGTAAAGGGCTGCCTTATGGTGTGGCGGGAGGAGTAGTTAATATAGG
IMP999-ECO AACGGGAGTGGTAGGAGAAGGGTTGGGGGATTGTATGGCGGGAGGAGTAGTTTACATATG
IMP1010-ST AACGGGAGTGGTAGGAGAAGGGTTGGGGGATTGTATGGCGGGAGGAGTAGTTTACATATG
IMP1011-48 AGCGGGAGTGGTAGGAGAAGGGCTGGGTTATGGTATGGCGGGAGGAGTAGTTTACATAGG
IMP1011-48 AGCGGGAGTGGTAGGAGAAGGGCTGGGTTATGGTATGGCGGGAGGAGTAGTTTACATAGG
* * ***** ***** ** ** * ***** ***** * * * *

PCVPK-15 GGTCATAGGCCAAGTTGGTGGAGGGGGTTACAAAGTTGGCATCCAAGATAACAACAGTGG
IMP999-ECO GGTCATAGGTTAGGGCTGTGGCCTTTGTTACAAAGTTATCATCTAGAATAACAGCAGTGG
IMP1010-ST GGTCATAGGTTAGGGCTGTGGCCTTTGTTACAAAGTTATCATCTAGAATAACAGCAGTGG
IMP1011-48 GGTCATAGGTGAGGGCTGTGGCCTTTGTTACAAAGTTATCATCTAGAATAACAGCACTGG
IMP1011-48 GGTCATAGGTGAGGGCTGTGGCCTTTGTTACAAAGTTATCATCTAGAATAACAGCACTGG
***** * * **** ***** ***** * ***** ** *

PCVPK-15 ACCCAACACCTCTTTGATTAGAGGTGATGGGGTCTCTGGGGTAA
IMP999-ECO AGCCCACTCCCCTATCACCTGGGTGATGGGGGAGCAGGGCCAG
IMP1010-ST AGCCCACTCCCCTATCACCTGGGTGATGGGGGAGCAGGGCCAG
IMP1011-48 AGCCCACTCCCCTGTCACCTGGGTGATCGGGGAGCAGGGCCAG
IMP1011-48 AGCCCACTCCCCTGTCACCTGGGTGATCGGGGAGCAGGGCCAG
* * * * * * * ***** * * * *

003493 : 04304